



# Security Classification Guide

TEAL RUBY EXPERIMENT

Strategic Technology Office  
July 1977

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DEFENSE ADVANCED RESEARCH PROJECTS AGENCY

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SECURITY CLASSIFICATION GUIDE


for

TEAL RUBY EXPERIMENT

STRATEGIC TECHNOLOGY OFFICE

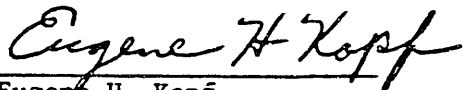
July 1977

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## I. GENERAL IDENTIFICATION:

The Teal Ruby Experiment denotes the DARPA sponsored effort for the construction, test, and on-orbit operation of an experimental sensor related to the detection of strategic air vehicles from space. Any reference to the interest of DARPA in Teal Ruby technology, techniques, measurements, and concepts is unclassified. Any statement which refers to the Teal Ruby Experiment in such a way as to reveal actual levels of performance requires Secret classification.

## II. ADMINISTRATIVE DATA:

### CLASSIFI- CATION

### COMMENTS

- |  |   |  |
|--|---|--|
| A. Objective: To develop space-based sensors for search and detection of strategic air vehicles. | U |  |
| B. Funding.  | U |  |
| C. Teal Ruby Experiment schedule.  | U |  |

## III. STUDIES:

- |   |   |                |
|---|---|----------------|
| A. Theoretical and experimental studies or results related to Teal Ruby techniques or missions.   | S | XGDS<br>Cat. 3 |
| B. Studies or results related to Teal Ruby techniques, operation, or missions but not revealing potential or actual performance, specific targets, spectral bands, or processing techniques used. | U |                |
| C. Systems Studies Revealing:   |   |                |
| 1. General or specific system concepts adequate to reveal potential systems performance or deployment against air vehicles.   | S | XGDS<br>Cat. 3 |
| 2. Detailed description of system or system components adequate to reveal potential or actual performance or deployment against air vehicles.   | S | XGDS<br>Cat. 3 |
| 3. System performance requirements, capabilities, deployments, and limitations.   | S | XGDS<br>Cat. 3 |
| 4. Vulnerability to countermeasures.  | S | XGDS<br>Cat. 3 |

Study results and individual study elements related to Teal Ruby will be classified in all cases according to the highest classification of the incorporated source material. Ambiguity concerning the meaning of adequacy for information related to Item C. above shall be resolved in favor of the highest classification pending a determination by the OPR on a case-by-case basis.

IV. TEAL RUBY DEVELOPMENTS:	CLASSIFI- CATION	COMMENTS
A. Present state-of-the-art of Teal Ruby related concepts and components, such as adaptive spectral filters and detector arrays.	S	XGDS Cat. 3
B. Teal Ruby Experiment:		
1. The fact that an experiment to demonstrate detection of air vehicles will be flown.	U	
2. The fact that the Teal Ruby Experiment will collect target and background data against the earth and will collect auroral data.	U	
3. The fact that the Teal Ruby Experiment will demonstrate DARPA developments in concepts and technology.	U	
4. Identification of specific targets, backgrounds, spectral bands, or detection techniques related to the Teal Ruby Experiment.	S	XGDS Cat. 3
5. Identification of focal plane composition, operating sequences, and ground resolution.	S	XGDS Cat. 3
6. Mission test plans including target and background selections, target parameters (altitude, velocity, and power setting), time and location of measurement, and spectral bands used.	S	XGDS Cat. 3
7. Signal processing techniques for background rejection and target tracking.	S	XGDS Cat. 3

	CLASSIFI- CATION	COMMENTS
8. Performance, limitations, vulnerabilities, and parameters which would enable an independent assessment of these factors.	S	XGDS Cat. 3
9. All measurement and command data resulting from or relating to the operation of the Teal Ruby Experiment.	S	XGDS Cat. 3
10. External or internal view (visual or photographic).	U	
11. Systems, subsystems, and components where physical access would reveal performance capability or focal plane contents.	S	XGDS Cat. 3
12. Detailed design descriptions and/or drawings of any system assembly or subassembly containing information revealing or leading to a determination of system performance.	S	XGDS Cat. 3
13. Adaptive spectral filters and detector arrays as used in the TEAL RUBY Sensor.	S	XGDS Cat. 3

V. All technical reports and documents classified XGDS under this guide will become declassified on 21 December 2007.